

IN THE CLAIMS:

1. (Currently Amended) A method of manufacturing a semiconductor device, comprising the steps of:

~~forming a mask pattern on a laminate comprising a first conductive layer and a second conductive layer;~~

forming a first conductive layer;

forming a second conductive layer over and in contact with the first conductive layer;

~~forming a first pattern with a tapered sidewall portion by etching the laminate;~~

~~etching the second conductive layer;~~

~~performing a plasma treatment to the first pattern with the tapered sidewall portion of the first conductive layer and the second conductive layer after etching the second conductive layer; and~~

~~removing the tapered sidewall portion of the first pattern with anisotropic etching to form a second pattern~~

etching a tapered portion of the second conductive layer after performing the plasma treatment to the first conductive layer and the second conductive layer.

2. (Previously Presented) The method according to claim 1, wherein the plasma treatment is an argon plasma treatment.

3. (Currently Amended) The method according to claim 1, wherein a reaction product adhering to the tapered ~~sidewall portion of the second conductive layer~~ is removed by the performing the plasma treatment step.

4. (Previously Presented) The method according to claim 1, wherein the first conductive layer is made of a metal nitride.

5. (Currently Amended) A method of manufacturing a semiconductor device, comprising the steps of:

~~forming a mask pattern on a laminate comprising first conductive layer and a second~~

~~conductive layer including titanium as its main component;~~
forming a first conductive layer;
forming a second conductive layer including titanium as its main component over and in contact with the first conductive layer;
~~forming a first pattern with a tapered sidewall portion by etching the laminate;~~
etching the second conductive layer;
~~performing a plasma treatment to the first pattern with the tapered sidewall portion of the first conductive layer and the second conductive layer after etching the second conductive layer; and~~
~~removing the tapered sidewall portion of the first pattern with anisotropic etching to form a second pattern~~
etching a tapered portion of the second conductive layer after performing the plasma treatment to the first conductive layer and the second conductive layer.

6. (Previously Presented) The method according to claim 5, wherein the plasma treatment is an argon plasma treatment.

7. (Currently Amended) The method according to claim 5, wherein a reaction product adhering to the tapered sidewall portion of the second conductive layer is removed by the performing the plasma treatment step.

8. (Previously Presented) The method according to claim 5, wherein the first conductive layer is made of metal nitride.

9. (Currently Amended) A method of manufacturing a semiconductor device, comprising the steps of:

forming a first conductive layer;
forming a second conductive layer over and in contact with the first conductive layer;
forming a third conductive layer over and in contact with the second conductive layer;
~~forming a mask pattern on a laminate comprising a first conductive layer, a second conductive layer on the first conductive layer, and a third conductive layer on the second~~

conductive layer;

forming a first pattern with a tapered sidewall portion by etching the laminate;

etching the second conductive layer after forming the third conductive layer;

performing a plasma treatment to the first pattern with the tapered sidewall portion the first conductive layer, the second conductive layer and the third conductive layer; and

removing the tapered sidewall portion of the first pattern with anisotropic etching to form a second pattern

etching a tapered portion of the second conductive layer after performing the plasma treatment to the first conductive layer, the second conductive layer and the third conductive layer.

10. (Previously Presented) The method according to claim 5, wherein the plasma treatment is an argon plasma treatment.

11. (Currently Amended) The method according to claim 5, wherein a reaction product adhering to the tapered sidewall portion of the second conductive layer is removed by the performing the plasma treatment step.

12. (Previously Presented) The method according to claim 5, wherein the first conductive layer is made of a metal nitride.

13. (Previously Presented) The method according to claim 5, wherein the third conductive layer is made of a metal having high-melting point.

14. (Currently Amended) A method of manufacturing a semiconductor device, comprising the steps of:

forming a first conductive layer;

forming a second conductive layer including titanium as its main component over and in contact with the first conductive layer;

forming a third conductive layer over and in contact with the second conductive layer;

forming a mask pattern on a laminate comprising a first conductive layer, a second

~~conductive layer including titanium as its main component on the first conductive layer, and a third conductive layer on the second conductive layer;~~

~~forming a first pattern with a tapered sidewall portion by etching the laminate;~~
~~etching the second conductive layer after forming the third conductive layer;~~
~~performing a plasma treatment to the first pattern; with the tapered sidewall portion~~
~~the first conductive layer, the second conductive layer and the third conductive layer; and~~
~~removing the tapered sidewall portion of the first pattern with anisotropic etching to~~
~~form a second pattern~~

~~etching a tapered portion of the second conductive layer after performing the plasma~~
~~treatment to the first conductive layer, the second conductive layer and the third conductive~~
~~layer.~~

15. (Previously Presented) The method according to claim 14, wherein the plasma treatment is an argon plasma treatment.

16. (Currently Amended) The method according to claim 14, wherein a reaction product adhering to the tapered ~~sidewall portion of the second conductive layer~~ is removed by the performing the plasma treatment step.

17. (Previously Presented) The method according to claim 14, wherein the first conductive layer is made of a metal nitride.

18. (Previously Presented) The method according to claim 14, wherein the third conductive layer is made of a metal having high-melting point.

19. (Currently Amended) A method of manufacturing a semiconductor device, comprising the steps of:

forming a semiconductor layer;
forming an insulating film over the semiconductor layer;
forming a first conductive layer over the insulating film;
forming a second conductive layer over and in contact with the first conductive layer;

~~forming a mask pattern on a laminate comprising a first conductive layer and a second conductive layer over a semiconductor layer with a gate insulating film interposed therebetween;~~

~~forming a first pattern with a tapered sidewall portion by etching the laminate;
etching the second conductive layer;~~

~~performing a plasma treatment to the first pattern with the tapered sidewall portion of the first conductive layer and the second conductive layer after etching the second conductive layer;~~

~~removing the tapered sidewall portion of the first pattern with anisotropic etching to form a second pattern; and~~

~~etching a tapered portion of the second conductive layer after performing the plasma treatment to the first conductive layer and the second conductive layer; and~~

~~adding an impurity elements to the semiconductor layer with the second conductive layer as a shielding mask to form a region with the impurity elements in the semiconductor film after etching the tapered portion of the second conductive layer,~~

wherein the region with the impurity elements overlaps with the first conductive layer.

20. (Previously Presented) The method according to claim 19, wherein the plasma treatment is an argon plasma treatment.

21. (Previously Presented) The method according to claim 19, wherein a reaction product adhering to the tapered sidewall portion of the second conductive layer is removed by the performing the plasma treatment step.

22. (Previously Presented) The method according to claim 19, wherein the first conductive layer is made of a metal nitride.

23. (Currently Amended) A method of manufacturing a semiconductor device, comprising the steps of:

forming a semiconductor layer;

forming an insulating film over the semiconductor layer;
forming a first conductive layer over the insulating film;
forming a second conductive layer over and in contact with the first conductive layer;
forming a third conductive layer over and in contact with the second conductive layer;
~~forming a mask pattern on a laminate comprising a first conductive layer, a second conductive layer on the first conductive layer, and a third conductive layer on the second conductive layer over a semiconductor layer with a gate insulating film interposed therebetween;~~

~~forming a first pattern with a tapered sidewall portion by etching the laminate;~~
~~etching the second conductive layer after forming the third conductive layer;~~
~~performing a plasma treatment to the first pattern with the tapered sidewall portion the first conductive layer, the second conductive layer and the third conductive layer;~~

~~removing the tapered sidewall portion of the first pattern with anisotropic etching to form a second pattern; and~~

~~etching a tapered portion of the second conductive layer after performing the plasma treatment to the first conductive layer, the second conductive layer and the third conductive layer; and~~

adding an impurity elements to the semiconductor layer with the second conductive layer and the third conductive layer as a shielding mask to form a region with the impurity elements in the semiconductor film after etching the tapered portion of the second conductive layer,

wherein the region with the impurity elements overlaps with the first conductive layer.

24. (Previously Presented) The method according to claim 23, wherein the plasma treatment is an argon plasma treatment.

25. (Currently Amended) The method according to claim 23, wherein a reaction product adhering to the tapered sidewall portion of the second conductive layer is removed by the performing the plasma treatment step.

26. (Previously Presented) The method according to claim 23, wherein the first conductive layer is made of a metal nitride.

27. (Previously Presented) The method according to claim 23, wherein the third conductive layer is made of a metal having high-melting point.

28.-32. (Canceled)